UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/672,043	09/29/2000	Jeffrey Jay Scheel	ROC920000177-US1 (IBM-150	1185

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EXAMINER
SHARON, AYAL I

ART UNIT	PAPER NUMBER
2123	8

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/672,043	SCHEEL ET AL.
	Examiner	Art Unit
	Ayal I Sharon	2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>29 September 2000</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-14</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-14</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a)☐ All b)☐ Some * c)☐ None of:
   1.☐ Certified copies of the priority documents have been received.
   2.☐ Certified copies of the priority documents have been received in Application No. _____.
   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application)
   since a specific reference was included in the first sentence of the specification or in an Application Data Sheet.
   37 CFR 1.78.
   a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific
   reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3,4,7</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Introduction

1. Claims 1-14 of U.S. Application 09/672,043 filed on 09/29/2000 are presented for examination.

Information Disclosure Statement

2. Item BR in paper #3, "IBM Corporation, S/390 Processor Resource/Systems management Guide (IBM Pub. No. GA22-7236-04, 5th Ed., March 1999" is missing from the case. Examiner requests another copy from the Applicants.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "… or any well-defined workload measurement units" is vague and indefinite.

5. The specification regarding the claimed invention is deficient in the areas cited above. Accordingly, the examiner has made prior art rejections based on the limited scope of information contained in the specification for supporting the

claims. The rejections are complete and specifically applied against the claims

based on this limited disclosure.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. The prior art used for these rejections is as follows:

8. Borden, T.L. et al. "Multiple Operating Systems on One Processor Complex."

8204 IBM Systems Journal. Vol.28, No.1. pp.104-122. 1989. Cited by Applicant

in an IDS (paper #7).

9. Claim 14 is rejected under 35 U.S.C. 102(b) as being anticipated by Borden.

10. In regards to Claim 14, Borden teaches the following limitations:

14.   A computer system comprising:
         partition processing means for running multiple operating system
images,
(Borden, especially: pp.104-106)

         storage means for storing a program and data;
(Borden, especially: pp.104-106, Figures 2 and 7, and associated text.)

         an input device for inputting data, and
(Borden, especially: pp.104-106, Figures 2 and 7, and associated text.)

         display means for displaying graphical representations to a user;
         wherein the program implements the graphical user interface for
configuring processors.
(Borden, especially: pp.104-106, pp.114-115, Figures 2 and 7, and associated
text.)

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. The prior art used for these rejections is as follows:

13. Borden, T.L. et al. "Multiple Operating Systems on One Processor Complex."

8204 IBM Systems Journal. Vol.28, No.1. pp.104-122. 1989. Cited by Applicant

in paper #7 - an IDS. (Henceforth referred to as "**Borden**").

14. IBM Corp., <u>AS/400 Logical Partitions Hardware Planning Guide.</u> © 1999.

(Henceforth referred to as "**AS/400**").

15. Schimunek, G. et al. <u>Slicing the AS/400 with Locigal Partitioning : A How to

Guide.</u> August 1999.

16. The claim rejections are hereby summarized for Applicant's convenience. The

detailed rejections follow.

17. **Claims 1-2, 5-9, and 12-13 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Borden in view of AS/400 and further in view of Official

Notice.**

18. In regards to Claim 1, Borden teaches the following limitations:

1.   A method of configuring processors in a target system, comprising:

prompting a user to select workload units to use in the configuration of the processor in the target system;
(Borden, especially: pp.107-109. "Partition Definition")

      prompting the user to input a quantity of processing power required in terms of partition
workload capacity required; ...

      (Borden, especially: pp.107-109. "Partition Definition")

      ... and after validation, configuring the target system processors according to the settings
determined by the routine.

      (Borden, especially: pp.107-109. "Partition Definition")

Borden also expressly teaches on p.107 that "Partitions may be either

dedicated or shared. Dedicated partitions have exclusive use of physical

processors assigned to the partition; shared partitions share use of physical

processors assigned to shared partitions under the control of the LPAR

dispatcher ... It is a user's choice whether a partition is dedicated or shared. A

partition that exhibits a steady demand for processing resources and that

requires an integral number of processors can achieve the highest throughput

when assigned dedicated physical processors. In most situations, however, the

processing demands of a partition fluctuate from moment to moment, and greater

system throughput can be achieved through the sharing of physical processors."

However, Borden does not expressly teach the following limitations:

      ... obtaining a system work capacity for the target system in the appropriate units from a
look-up table;

      calculating the number of partition processors;

      wherein the number of partition processors equals the total number of system
processors, times the partition workload capacity divided by the system work capacity;

      testing the calculated number of partition processors to see if it is within a predetermined
percentage of the next full processor increment;

      if within the predetermined percentage, then recommending using dedicated processors,
otherwise recommending using shared processors;

      displaying the calculated number of partition processors and the recommended use of
dedicated or shared processors to the user for validation or changing of the values; ...

AS/400 teaches the following limitations:

obtaining a system work capacity for the target system in the appropriate units from a look-up table;

calculating the number of partition processors;

wherein the number of partition processors equals the total number of system processors, times the partition workload capacity divided by the system work capacity;

More specifically, AS/400 (p.34) teaches a table with CPW statistics for several IBM computers, with several different configurations.

AS/400 (p.9) teaches the following equation:

"Relative logical partition performance = (CPW) (# processors in the logical partition / total # of processors)."

If the elements in this equation are solved for the "# processors in the logical partition" element, then the equation is rearranged as follows:

"(# processors in the logical partition) = (total # processors) (Relative logical partition performance) / (CPW)".

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Borden with those of AS/400 because they both teach features of IBM's LPAR product.

In regards to the following limitations,

testing the calculated number of partition processors to see if it is within a predetermined percentage of the next full processor increment;

if within the predetermined percentage, then recommending using dedicated processors, otherwise recommending using shared processors;

displaying the calculated number of partition processors and the recommended use of dedicated or shared processors to the user for validation or changing of the values;

Even though Borden does not expressly teach "testing the calculated number of partition processors to see if it is within a predetermined percentage of

the next full processor increment", Official Notice is given that would have been obvious to one of ordinary skill in the art to do so because Borden (p.107) teaches that "A partition that exhibits a steady demand for processing resources and that requires an integral number of processors can achieve the highest throughput when assigned dedicated physical processors", and therefore it would be desirable to test if it was possible to allocate dedicated processors, because these would be the most efficient in the described circumstances.

Moreover, Official Notice is given that it would have been obvious to one of ordinary skill in the art to include a margin of error in the calculation, ("... within a predetermined percentage ..."). It is old and well known in the art that estimations of capacity requirements are not 100% accurate or precise. It therefore would have been obvious to include a margin of error in order to offset this imprecision and inaccuracy.

In addition, Official Notice is given that it would have been obvious to one of ordinary skill in the art to display the calculation results for user validation or override. The feature of a user display of computation results is old and well known in the art, and existed in other operating system installation packages at the time the invention was made. It would have been obvious to one of ordinary skill at the time the invention was made to include such a feature for user validation or override of the calculated results, because technically knowledgeable users would have wanted to have the opportunity to veto the default settings determined by the calculation.

19. In regards to Claim 2, Borden teaches the following limitations:

2.   The method according to claim 1, wherein the workload units to use in the configuration of the processor in the target system are in commercial processing workload (CPW) units, transaction processing performance council (TPC-C) units, or any well-defined workload measurement units.
(Borden, especially: p.115)

20. In regards to Claim 5, Borden teaches the following limitations:

5.   A processing system running multiple operating system images (same or different) having logical partitions and implementing the method according to claim 1.
(Borden, especially: pp.104-105)

21. In regards to Claim 6, Borden teaches the following limitations::

6.   A computer program product, comprising:
        a recording medium, and
        instruction means, disposed on the recording medium, for causing
a computer to implement the method of configuring processors in a target
system according to claim 1.
(Borden, especially: p.106. See references to PR/SM and VM/XA SP control program.)

22. In regards to Claim 7, Borden teaches the following limitations:

7.   A computer system having processing means, storage means, input means, and display means, and operating a graphical user interface utilizing the method according to claim 1.
(Borden, especially: Figures 2 and 7, and associated text.)

23. Claims 1-2, 5-9, and 12-13 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Borden in view of AS/400 and further in view of Official

Notice and further in view of LPAR.

24. In regards to Claim 3, Borden does not expressly teach the following limitations:

3.   The method according to claim 1, wherein the number of partition processors calculated has a resolution of at least two digits to the right of the decimal.

        LPAR does teach this (see LPAR, pp.5-6).

        It would have been obvious to one of ordinary skill in the art to modify the

teachings of Borden with those of LPAR, because both expressly teach about the

"LPAR" product.

25. In regards to Claim 4, Borden does not expressly teach the following limitations:

4.   The method according to claim 1, wherein the predetermined percentage of the next full processor increment is twenty-five percent.

LPAR does teach this (see LPAR, pp.5-6).

It would have been obvious to one of ordinary skill in the art to modify the teachings of Borden with those of LPAR, because both expressly teach about the "LPAR" product.

26. Claims 8-13 are rejected based on the same reasoning as claims 1-6, immediately above. Claims 8-13 are product claims reciting the equivalent limitations as are recited in method claims 1-6 and taught throughout Borden, AS/400, LPAR, and Official Notice.

Conclusion

27. The following prior art, made of record and not relied upon, is considered pertinent to applicant's disclosure.

28. Menasce, D. et al. Capacity Planning and Performance Modeling. ISBN 0-13-035494-5. © 1994.

29. Massaro et al. U.S. Patent 5,535,321.

30. Kubala et al. U.S. Patent 6,625,638.

31. Leutenegger et al. "A Modeling Study of the TPC-C Benchmark". Proc. of the 1993 ACM SIGMOD Int'l Conf. on Management of Data. 1993. pp.22-31.

32. Levine, C. "Order-of-Magnitude Advantage on TPC-C Through Massive Parallelism." Proc. of the 1995 ACM SIGMOD Int'l Conf. on Management of Data. 1995. pp.22-31.

33. IBM Corp., LPAR Configuration and Management, First Edition. © April 2002. The copyright page states that "This edition applies to OS/400, Version 5, Release 1." The "Background Information" section of the specification of the application (p.3, lines 19-20) makes reference to "the V5R1 logical partitioning GUI ..." Therefore this document qualifies as prior art.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ayal I. Sharon whose telephone number is (703) 306-0297. The examiner can normally be reached on Monday through Thursday, and the first Friday of a biweek, 8:30 am – 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Teska can be reached on (703) 305-9704. Any response to this office action should be mailed to:

Director of Patents and Trademarks
Washington, DC 20231

Hand-delivered responses should be brought to the following office:

4th floor receptionist's office
Crystal Park 2

2121 Crystal Drive
Arlington, VA

The fax phone numbers for the organization where this application or proceeding

is assigned are:

All communications: (703) 872-9306

Any inquiry of a general nature or relating to the status of this application

or proceeding should be directed to the receptionist, whose telephone number is:

(703) 305-3900.

Ayal I. Sharon

Art Unit 2123

December 17, 2003

KEVIN J. TESKA
SUPERVISORY
PATENT EXAMINER